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AUTHOR Brown, Robert S.
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ABSTRACT

Using retrieved historical data, the Toronto Board of Education's Research and Assessment Department undertook to examine long-term tracking outcomes of the 1981 cohort of Grade 1 students. These 4,195 students, who had entered the Toronto (Canada) schools in 1981, were followed for over 14 years. Students who followed the traditional schedule of entering an elementary school and progressing through its associated high school did quite well in that only 12% dropped out. However, these students accounted for only 15% of the total grade 1 cohort. Two-thirds of the grade 1 cohort transferred out of the Toronto schools while still in elementary school. This attrition seems to be shared by all Toronto schools. However, 9% of the total cohort re-entered the Toronto schools through enrolling in secondary school at some point. Most came back from another Ontario school district. These were the most at-risk students, with more dropping out (43%) than graduating (36%). In case 1981 was an atypical year, the cohort of 1987 was also studied. Somewhat less attrition was apparent, but fewer than half remained in the Toronto schools to make the transition to grade 9. Results indicate that nonlinear movement appears to be the experience of most students in the Toronto Board at some point. Student mobility, closely related to issues of accountability, is of great interest to the School Board. (Contains six tables, one figure, and six references.) (SLD)

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THE GRADE 1 COHORT OF 1981: TRACKING OUTCOMES, 1981-1995

NO. 221

RESEARCH AND ASSESSMENT DEPARTMENT
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THE GRADE 1 COHORT OF 1981: TRACKING OUTCOMES, 1981-1995

December 1996

Robert S. Brown

Executive Summary

Working with systems of retrieved historical data developed by Computer Information Services, the Toronto Board's Research and Assessment Department undertook to examine long-term tracking outcomes of the 1981 cohort of Grade 1 students. These are students that had entered the Toronto Board as Grade 1 students during the 1981-82 school year. The students were followed for a period of over 14 years: from September 1981 until December 1995. For each student, the study examined a variety of tracking outcomes, including within-Board mobility, transfer outside the Board, apparent elementary retention (grade failing), high school graduation, and dropout.

Among the highlights:

- In thinking about the 'effects' of schooling, many people tend to have an assumption that students will proceed through elementary and secondary schools at a consistent pace and in the same pattern. The whole idea of 'cohort' studies assumes a regular, year-by-year progression of groups of students of a similar age through annual grade changes in the same system. However, this examination of one Grade 1 cohort in a period of over 14 years finds a very different picture. In the Toronto Board, students who follow this pattern appear to do quite well. Of students who followed the 'traditional' schedule or model (attending one Toronto elementary school up to Grade 6, transferring from Grade 8 into a Toronto Grade 9 class, then staying in one Toronto secondary school) only 12% dropped out, about a third of the 'regular' dropout rate. These are the students who would have most fully participated in the Toronto Board experience. However, students who followed this pattern accounted for only 15% of the total Grade 1 cohort.

- In total, one third of the 1981 Grade 1 cohort attended Toronto schools up to Grade 8 and then transferred to a Toronto secondary school (this includes the 'traditional' model of students, as well as those with within-Board elementary and secondary mobility). Two thirds of the Grade 1 cohort of 1981 transferred out of the Toronto Board while still in the elementary panel (i.e., between Grade 1 and Grade 8); most of these students appear to have moved to other Boards in the GTA. In other words, judging from this cohort, the majority of students who start their elementary education in the Toronto Board do not remain in the Board for their full elementary school experience, but leave the system prior to high school. An examination of this attrition by ward shows that a majority of elementary students in all wards left the Board prior to high school: the attrition of elementary students is therefore something shared by all Toronto schools, as least based on this cohort.

- However, 9% of the total cohort *later re-entered the Toronto Board* through enrolling in secondary schools. The majority of these students re-entered the Toronto Board from another Ontario board. These are the most at risk students in the cohort, with more students dropping out (43%) than graduating (36%) by the end of the study period. (Of course, we do not know the status of those students who transferred out of the Toronto Board and did not return.)

- It is possible that students in the early 1980's experienced a disproportionate amount of change (e.g. the formation of the French school system, the extension of public funding to separate school OAC students, and the extraordinary real estate market of the decade). Therefore, another cohort was examined: students who entered Grade 1 in 1987. It was found that as of Fall 1996, 55% of these students had transferred out of the Toronto Board, while 45% had entered a Toronto Board secondary school. Thus, attrition of students appears to have somewhat declined between the 1981 and the 1987 Grade 1 cohort; still, the proportion of students in the more recent cohort who made the transition from Grade 1 to Grade 9 is well under half.

- Of students in the 1981 Grade 1 cohort who stayed in the Toronto Board, 19% appear to have repeated a grade before they finished elementary school (i.e., they entered a Toronto Board high school a year later than the rest of the cohort), and about two thirds of these retained students were male; these figures are typical of the time period, according to available research. The literature had also strongly linked elementary school retention with secondary school failure, and this was found in the 1981 cohort outcomes: of students who were retained before going into secondary school, only 38% graduated from high school (compared to 70% of non-retained students) and 32% of retained students had dropped out (compared to 18% of non-retained students). It should be noted that the proportion of apparently retained students has declined since that time, from 19% of the 1981 Grade 1 cohort to 5% of the 1987 Grade 1 cohort (the most recent cohort that can be studied in this way).

- There is not a strong statistical relationship between elementary internal mobility and secondary internal mobility, which may indicate that elementary school mobility has different reasons and relationships than secondary school mobility. One possibility could be that changing schools at the elementary level might be more closely related to parental decisions, like moving neighbourhoods, while changing school at the secondary level may be more closely related to student factors. At the same time, one most be cautious about drawing conclusions because we only know about the students who remained in the Toronto Board into secondary school—possibly a more stable group than the total Grade 1 cohort.

- Had they been following the 'traditional' path of school progress, students in the cohort would have finished their fifth year of high school by the end of Year 13 (July 1994). However, about 13% of the total cohort left **after** their thirteenth year with the Board. These would include students who had failed or been otherwise delayed in at least one grade of elementary school; students with lower than average secondary school credit accumulation; students who graduated with their OSSD but returned to upgrade or add OAC credits; and returning students (dropouts and transfers who have returned to the Board). In fact, most students who were still in the Board in Year 15 (their seventh year of high school) had experienced some sort of academic dislocation: they had failed a grade, transferred to a second or third secondary school, or left the Board as elementary students and re-entered in the secondary panel. The fact that these are also the most "at risk" students (at least of those who remained in the Toronto Board) may be related.

- Of students in the 1981 Grade 1 cohort who entered the Toronto Board secondary panel, and did not transfer to other Boards, the majority (65%) completed at least one OAC credit; specifically, nearly half (49%) had completed six or more OAC credits by Fall 1995, while one sixth (17%) completed between one and five OAC credits-- indicating an interest in attending post-secondary institutions.

- Of cohort students who remained in the Toronto Board, female students were more likely to graduate, and more likely to complete six or more OAC credits, than were males.

It is quite possible that the 1981 cohort may represent the 'worst-case' or most extreme example of mobility, since examination of more recent records shows a lower rate of student movement. Still, it is apparent that non-linear movement appears to be the experience of most students in the Toronto Board, at some point in their elementary or secondary years. Mobility is closely related to issues of accountability: an education system can determine its successes and difficulties only when it knows where its students have been, and what happens to them.

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A. Introduction

The Toronto Board of Education's Research and Assessment Department has been involved in tracking studies for over three decades. Most of these were studies of secondary students: for example, following the cohort of Grade 9 students for over five years, from 1987 to 1992. However, it was noted that there was little on the long-term prospects of Toronto elementary students who start their academic careers in the Toronto Board. Working with systems of retrieved historical data developed by Computer Information Services, the author undertook to examine long-term tracking outcomes of the 1981 cohort of Grade 1 students (N= 4195). These are students that had entered the Toronto Board as Grade 1 students during the 1981-82 school year. [1]

The students were followed for a period of over 14 years: from September 1981 until December 1995.[2] For each student, the study examined:

- the transition from the elementary to the secondary panel;
- year of leaving the Board;
- within Board mobility (changing from school to school) up to the end of Year 6 (Grade 6)[3];
- proportion of students retained by the end of Year 8;
- graduation, transfer, dropout, and continuation status of studies for students once they entered the secondary panel;
- within Board mobility (changing from school to school) within the secondary panel; and,
- OAC (Ontario Academic Credit) credit accumulation.

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[1] The 1981-82 school year (September 1981- June 1982) appears to be the earliest which provides reliable data.

[2] Specifics of the Toronto Board methodology were developed by the author, but he wishes to acknowledge the importance of a 1994 discussion that members of the Provincial Committee on Tracking Students had with Dr. Glynn Ligon, noted American authority on tracking and administrative data. Dr. Ligon shared the results of a long-term cohort study in Texas, in which he followed students from Kindergarten to high school graduation. The author wishes to acknowledge the important role played by Cheung Lui, Jack Gilchrist, and other past and present members of the Board's Computer Information Services Department. Thanks are also owed to Maisy Cheng, Sylvia Larter , Lisa Rosolen, and Maria Yau, of Research and Assessment, and Palma Vitti of the Planning Department. Finally, the author would like to acknowledge the value of two interesting conversations: one with Suzanne Ziegler (retired Chief Research Officer for the Toronto Board, and author of several studies of elementary retention) on elementary retention; another with Edward Wright, (also retired Chief Research Officer for the Toronto Board, and author of the first Board tracking study), on issues related to tracking students.

[3] This analysis did not examine internal mobility (changing schools in the Board) for Years 7 and 8 of the cohort (Grades 7 and 8 for most students) because it was impossible to differentiate between the "authorized" transfer of Grade 6 students in junior level schools going to senior level schools (e.g., a Grade 6 student in Queen Victoria, which has classes only to Grade 6, transferring to Parkdale in Grade 7), and other types of mobility.

B. Tracking Results

1. Transition to Secondary School

Two thirds (66%) of the Grade 1 cohort of 1981 transferred out of the Toronto Board while still in the elementary panel (i.e., between Grade 1 and Grade 8); most of these students appear to have moved to other Boards in the Greater Toronto Area (GTA). In other words, judging from this cohort, the majority of students who start their elementary education in the Board do not remain in the Board for their full elementary school experience, but leave the system prior to high school. Conversely, around one third of the Grade 1 cohort attended Toronto schools up to Grade 8 and then transferred to a Toronto secondary school.[4]

The extent of mobility indicated by these figures should not be completely surprising. According to information from the 1991 Census, residents of the City of Toronto had the highest mobility in the Metropolitan area: 50% were living at a different address than they had been 5 years earlier, and 20% were living at a different address than they were one year earlier. (Census of Canada, 1991, extracted from CD-ROM by author).

Although it is sometimes claimed that economically disadvantaged families are more likely to move than others, the evidence for this Grade 1 cohort and from Statistics Canada suggest that the evidence is inconclusive. Research done by Statistics Canada has indicated that mobility is positively correlated with education, with those earning more and with higher education more likely to move; as well, renters are more likely to move than are homeowners (Che-Alford, 1992).[5] We have no information available on the social-economic status of students in the Grade 1 cohort of 1981. However, "school ward" could serve as a crude proxy, since populations in certain wards have generally higher incomes and educational backgrounds than those in other wards. As seen in Table 1, all wards lost more than half their elementary students -- ranging from 53% (Ward 16) to 77% (Ward 12). A link with socio-economic characteristics is difficult to make: Ward 13, which includes Rosedale, has a mobility of 60%, and Ward 14, north of Ward 13, has a mobility of 66%; these rates are comparable to those of Wards 3-6 in the central area of Toronto (62-65%). The high mobility of elementary students is therefore something shared by all Toronto Board schools, at least based on this cohort.

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[4] Female students were slightly more likely to stay in the Toronto Board than male students (36% to 33%).

[5] According to Che-Alford, "Canadians are very mobile, with most Canadians having changed residence at least once in the last 10 years...one half of Canadian adults moved during the last five years and two thirds in the last 10 years. In 1989, 3.6 million people aged 15 and over (18% of adults) moved. In fact, just 5% of adults have always lived at the same address."

Table 1: Proportion of Grade 1 Students (1981) Who Left Prior to Grade 9

WARD	LEFT DURING ELEMENTARY SCHOOL (%)
Ward 1	59.3
Ward 2	75.6
Ward 3	63.9
Ward 4	62.1
Ward 5	61.5
Ward 6	65.4
Ward 7	69.6
Ward 8	63.1
Ward 9	71.9
Ward 10	62.5
Ward 11	73.4
Ward 12	76.5
Ward 13	60.2
Ward 14	66.1
Ward 15	56.6
Ward 16	52.9
TOTAL	**65.6**

However, 9% of the total cohort *later re-entered the Toronto Board* through enrolling in secondary schools. The majority of these students re-entered the Toronto Board from another GTA board. As will be shown below, out of students we were able to track, these are the most "at risk "students in the cohort, with more students dropping out than graduating by the end of the study period.

2. Secondary School Dropout and Graduation

Out of all students in the 1981 cohort who attended secondary school,[6] 58% had graduated by the end of 1995; 8% were still active students (i.e., they had enrolled in the Board in Fall 1995 and had not at that time completed their high school requirements); 9% had transferred outside of the Board into another educational system sometime between (and including) 1989 and 1995; and 25% had dropped out of high school. Female students in the cohort were somewhat more likely to graduate and less likely to drop out than male students (62% of female students graduated and 23% dropped out, while 54% of male students graduated and 27% dropped out).

[6] 43% of the total Grade 1 cohort attended secondary school in the Board: i.e., 34% who remained in the Toronto Board into Grade 9, and the 9% who left the Board but then returned.

3. Year of Leaving the Toronto Board

Years 9, 10, and 11 (when most students were in Grades 9, 10, and 11) had the lowest pattern of Board departures, which is consistent with what we know from previous tracking studies. Year 13 had the highest number of Board departures, since that was the year in which students were most likely to graduate or drop out. 9% of students left in Year 14 (1994-95) and, as noted above, 5% were still enrolled in the Board in Fall 1995 (Year 15). See Table 2 below.

Table 2: Year of Leaving the Toronto Board, Fall 1981- Fall 1995

YEAR	Year of Leaving the Toronto Board (%)
Year 1 (1981-82)	13.2%
Year 2 (1982-83)	9.1%
Year 3 (1983-84)	6.7%
Year 4 (1984-85)	5.5%
Year 5 (1985-86)	5.4%
Year 6 (1986-87)	6.9%
Year 7 (1987-88)	4.0%
Year 8 (1988-89)	4.8%
Year 9 (1989-90)	2.6%
Year 10 (1990-91)	2.3%
Year 11 (1991-92)	2.7%
Year 12 (1992-93)	4.3%
Year 13 (1993-94)	19.2%
Year 14 (1994-95)	8.8%
Year 15 (Fall 1995)	4.6%
TOTAL	**100.0%**

Note: Year 15 refers to the proportion of students still in the Board in Fall 1995.
This is the year of leaving the Board for the total sample (N= 4195), including the final departure date of 9% of students who left the Board before the end of their elementary schooling, but re-entered the Board at the secondary level.

4. Apparent Retention Rate (Failed Students) at end of Grade 8

We cannot definitely say what proportion of the entire 1981 Grade 1 cohort repeated a grade, since the majority of the cohort left the Board while in elementary school. What we can look at is the proportion of students in the cohort (who remained in the Toronto Board)[7] who started Grade 9 a year later than they should have. This is 269 students out of 1,444, or 19%. *Therefore, of cohort students who stayed in the Toronto Board, 19% repeated a grade before they finished elementary school*[8]. Most (64%) of retained students were male. It should be

[7] That is, 1,444 students out of 4,195, or 34% of the total cohort.

[8] As well, this would include students who would have had their education delayed for one year due to illness. However, it is not possible to factor out illness delays.

noted that in 1989, Edward N. McKeown (then Director of Education) estimated that about 15-25% of students across North America repeat a grade before they finish elementary school; the 19% of students in the 1981 cohort who repeated a grade is the mid-point of Director McKeown's estimate (McKeown, 1989).

Students in the cohort who had been retained were much less likely to graduate than students who were not retained; likewise, retained students were much more likely to drop out, or to still be active students at the end of 1995 (see Table 3). This is consistent with literature on retained students (e.g. Roderick, 1995).

Table 3: Apparent Elementary School Retention and Secondary School Student Outcomes

Student Outcomes	Retained students	Students who were not retained
Graduate	37.9	69.5
Active at end of 1995	21.6	4.6
Transfer outside TBE	8.6	8.2
Dropout	**31.6**	**17.7**
TOTAL	100.0%	100.0%
N= 1,444	269	1,175

(of the Grade 1 cohort students who remained in the Toronto Board and started Grade 9.)

5. Within-Board Elementary School Mobility (by the end of Grade 6)

The within-Board elementary school mobility of the 1981 cohort was 28% by the end of their sixth year (Grade 6 for most students). This means that, by June 1987, the time by which most students still in the Board had completed Grade 6, 28% (or 1,191 out of 4,195) had transferred to one or more Toronto Board elementary schools, while 72% had remained in the same school. Most 'mobile students' attended only two Toronto elementary schools, although a small proportion attended anywhere between three and eight schools.[9]

Students who had transferred to more than one elementary school by Year 6 were somewhat more likely to drop out of a Toronto high school than those who remained in one elementary school by the end of Year 6 (29% of students who had attended more than one elementary school by the end of Year 6 later dropped out in high school, versus 23% of those who attended one elementary school only by the end of Year 6).[10]

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[9] As noted earlier, Year 6, where most students would be in Grade 6, was used rather than Year 8 (Grade 8) because in many but not all schools, students transfer to a senior school after Grade 6, but should have remained in one school up to the end of Grade 6.

[10] Out of 1,816 students in the Grade 1 cohort who attended secondary school in the Toronto Board, 1,444 stayed into Grade 9, while 372 left the Board in elementary and then later transferred back sometime during secondary school.

6. Secondary School Mobility

The within-Board secondary mobility rate of the 1981 Grade 1 cohort was 38%. This means that, of those students in the cohort who attended secondary school in the Toronto Board, 38% (or 682 out of 1,816) had transferred to more than one Toronto secondary school. Mobile secondary students were almost twice as likely to drop out as those who remained in one secondary school (34% of students who attended more than one secondary school dropped out, compared to 19% of those who remained in one school). Conversely, those who remained in one school were much more likely to graduate (66% of those who remained in one secondary school graduated, compared to 45% of those who attended more than one school).

Curiously, there was not a statistically significant relationship between elementary and secondary mobility; students who changed Toronto schools by the end of Grade 6 were no more likely to change secondary schools than those who had attended only one elementary school. This may indicate that elementary school mobility has different reasons and relationships than secondary school mobility. One possibility could be that changing schools at the elementary level might be more closely related to parental decisions, like moving neighborhoods, while changing school at the secondary level may be more closely related to student factors. There is some support for this in the relationship between gender and mobility: while males and females had the same elementary mobility, male students had a higher secondary level mobility (41% of remaining cohort males attended more than one Toronto secondary school, compared to 34% of females.) . At the same time, one most be cautious about drawing conclusions because we only know about the students who remained in the Toronto Board into secondary school—possibly a more stable group than the total Grade 1 cohort. This is something that deserves further study.

7. Models of Mobility

As noted above in Section 2, out of all students in the cohort who attended secondary school in the Toronto Board (N = 1,816), 58% had graduated by the end of 1995; 8% were still active students (i.e., they had enrolled in the Board in Fall 1995 and had not at that time completed their high school requirements); 9% had transferred outside of the Board into another educational system sometime between 1989 and 1995; and 25% had dropped out of high school. However, the proportion of dropouts varied greatly, according to the mobility rates of the students. For the purposes of this study, students in the cohort who attended secondary school in the Toronto Board were classified into four types:

- **the "traditional" model:** students who attended one elementary school to Grade 6, transferred from Grade 8 into a Toronto Grade 9 class, and then stayed in one Toronto secondary school (15% of the total Grade 1 cohort, and 35% of those who attended TBE secondary schools);
- **elementary mobility only:** students who attended two or more elementary schools between Grade 1 and Grade 6, but attended only one Toronto secondary school (6% of the total Grade 1 cohort, and 14% of those who attended TBE secondary schools);

- **elementary and/or secondary mobility:** students who attended more than one secondary school in the Toronto Board (13% of the total Grade 1 cohort, and 30% of those who attended TBE secondary schools);[11]
- **returned to Board:** students who left the Board sometime in elementary school, but returned to the Board sometime in secondary school (9% of the total Grade 1 cohort, and 20% of those who attended TBE secondary schools).

As can be seen in Table 4 below, students in the "traditional" model did best in the secondary system: they had the highest graduation rate and the lowest dropout rate. Students who returned to the Board from other educational systems fared least well: they had the lowest graduation rate, and the highest dropout rate.[12] Students who returned to the Toronto Board, and those who attended two or more secondary schools, were also most likely to be 'active' students at the end of 1995 -- which may indicate that many students who take longer to complete their high school diploma are doing so as a result of some sort of dislocation (changing of schools, changing of Boards).

Table 4: Student Tracking Outcomes and Models of Mobility

1981 Cohort Student Tracking Outcomes to 1995	Traditional model	Elementary mobility only	Elementary and/or Secondary mobility	Returned to the Board
Graduate	75.6	65.8	48.8	36.3
Active at end of 1995	1.9	2 3	17.1	10.2
Transfer outside TBE	10.3	13.7	3.5	11.0
Dropout	**12.2**	**18.3**	**30.6**	**42.5**
TOTAL (N = 1816)	100.0% (n = 632)	100.0% (n = 263)	100.0% (n = 549)	100.0% (n = 372)

8. OAC Credit Accumulation

Ontario universities normally require secondary students to complete six OAC's (Ontario Academic Credits) as a prerequisite for admission. They may be taken as part of their Ontario Secondary School Diploma, or independent of it. Of students in the Grade 1 cohort who

[11] Elementary and/or secondary mobility consisted of two groups: 1) students who attended more than one elementary school and more than one secondary school, and 2) those who stayed in only one elementary school but went to more than one secondary school. There was little difference between the two groups; therefore they have been combined for the purpose of this analysis.

12 According to student records, 69% returned from other Boards in Ontario, and 4% from other provinces/countries; 27% of the records were incomplete. It is difficult to tell whether the proportion of elementary students returning to the Board in the secondary panel is similar to other Boards. It is worth noting that the Board has an extensive system of alternative and adult programs, and it is possible that the Toronto Board may have a higher proportion of "at risk" students re-entering the system.

entered the Toronto Board secondary panel, and did not transfer to other Boards (N= 1,665),[13] the majority (66%) completed at least one OAC credit; specifically, nearly half (49%) had completed six or more OAC credits by Fall 1995, while one sixth (17%) completed between 1 and 5 OAC credits-- indicating an interest in attending post-secondary institutions. Approximately one third of the cohort (34%) completed no OAC credits (See Table 5 below). There was a gender difference: female students in the cohort were more likely to have completed six or more OAC credits, than were males (see Table 6).

However, the majority of those who received no OAC credits had dropped out, meaning that, in many cases, they would not have had the opportunity to complete pre-requisites for OAC credits. When dropouts as well as transfers are excluded, 83% of the remaining students completed at least one OAC credit, and 67% had completed six or more OAC credits. This means, of those students in the cohort who had the opportunity to complete OAC's -- i.e., they had not transferred out of the Board or dropped out -- the vast majority took advantage of this opportunity, and over two thirds completed enough OAC's to become eligible for admission to university.

Table 5: OAC Credit Accumulation

Number of OAC credits	Excluding transfers to other Boards	Excluding transfers AND dropouts
No OAC credits	34.4	16.9
1 credit	5.0	3.7
2 credits	3.6	2.7
3 credits	2.2	1.9
4 credits	3.4	4.3
5 credits	2.6	3.6
6 or more credits	**48.9**	**66.9**
TOTAL	100.0%	100.0%
N	1,655	1,204

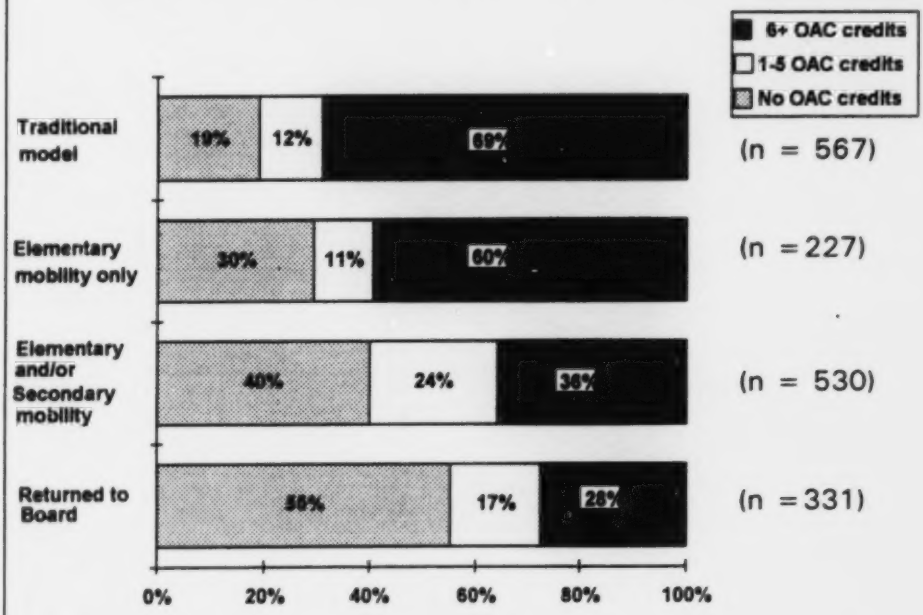
Table 6: OAC Credit Accumulation, By Gender
(Excluding transfers to other Boards)

Number of OAC credits	Male	Female
No OAC credits	38.3	30.3
1-5 credit	17.0	16.5
6 or more credits	**44.7**	**53.2**
TOTAL	100.0%	100.0%
N	843	812

[13] This includes those who transferred out of the Toronto Board at the elementary level, but returned to the Board during their secondary school studies.

Not surprisingly, given the demonstrated relationship between models of mobility and dropout, OAC credit accumulation is also closely related to the models of mobility. As seen in Figure 1, students in the 'traditional model', with limited mobility, were also most likely to complete 6 or more OAC credits (69%) and least likely to not complete any OAC credits (19%) while students who had left the Board and then returned were least likely to complete 6 OAC credits (28%) and most likely to not complete any OAC credits (55%).

Figure 1: % of Students with OAC Credits, According to Mobility Model



Total = 1,655 or 39.5% of original Grade 1 cohort (N = 4,195)
Students who permanently transferred out of the Toronto Board (at both elementary and secondary panels) are excluded.
Students who transferred out of the Toronto Board at the elementary panel and returned at the secondary panel are included.

See Section 7 for definitions of models of mobility.

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C. Summary Discussion

In thinking about the 'effects' of schooling, many people tend to have an assumption that students will proceed through elementary and secondary schools at a consistent pace, and in the same pattern of schools. The whole idea of 'cohort' studies assumes a regular, year-by-year progression of groups of students of a similar age through annual grade changes in the same system.

However, this examination of one Grade 1 cohort in a period of over 14 years finds a very different picture. In the Toronto Board, students who follow this pattern appear to do quite well. Of students who followed the 'traditional' schedule or model (attending one Toronto elementary school up to Grade 6, transferring from Grade 8 into a Toronto Grade 9 class, then staying in one Toronto secondary school) only 12% dropped out, about a third of the 'regular' dropout rate. These are the students who would have most fully participated in the Toronto Board experience. However, students who followed this pattern accounted for only 15% of the total Grade 1 cohort.

One third of the 1981 Grade 1 cohort attended Toronto schools up to Grade 8 and then transferred to a Toronto secondary school (this includes the 'traditional' model of students, as well as those with within-Board elementary mobility).

Two thirds of the Grade 1 cohort of 1981 transferred out of the Toronto Board while still in the elementary panel (i.e., between Grade 1 and Grade 8); most of these students appear to have moved to other Boards in the GTA. In other words, judging from this cohort, *the majority of students who start their elementary education in the Toronto Board in Grade 1 do not remain in the Board for their full school experience, but leave the system prior to high school.* [14]

An examination of this attrition by ward shows that a majority of elementary students *in all wards* left the Board prior to high school: the attrition of elementary students is therefore something that is shared by all schools in the Toronto Board, as least based on this cohort.

However, 9% of the total cohort *later re-entered the Toronto Board* through enrolling in secondary schools. The majority of these students re-entered the Toronto Board from another Ontario board. These are the most "at risk" students in the cohort, with more students dropping out (43%) than graduating (36%) by the end of the study period.

It is possible that students in the early 1980's experienced a disproportionate amount of change (e.g., the formation of the French school system, the extension of public funding to separate school OAC students, and the extraordinary real estate market of the decade). Therefore, another cohort was examined: students who entered Grade 1 in 1987. It was found that as of Fall 1996, 55% of these students had transferred out of the Toronto Board, while 45% had

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[14] The inverse of the high elementary attrition noted above is *that the majority of high school students in the Toronto Board do not start their school experience in the Board, but enter the Board at some middle point in time* (for example, transferring into the Board in Grade 4 or Grade 8; or entering the middle levels of the secondary system after arriving from another Board, province, or country). In fact, internal research done by Research and Assessment on 1994-95 secondary students has found a high proportion (half or more, including adult students) had not attended a Toronto Board elementary school.

entered a Toronto Board secondary school. Thus, attrition of students appears to have somewhat declined between the 1981 and the 1987 Grade 1 cohort; still, the proportion of students in the more recent cohort who made the transition from Grade 1 to Grade 9 is well under half. (See the Appendix.)

These findings have a number of implications in terms of change initiatives. Since most Toronto elementary students appear to have transferred to other Boards prior to attending secondary school, and most secondary students originated their studies in some other educational institution, the issue of who has 'responsibility' for student achievement (both positive and negative) is rather tenuous. Given our current lack of knowledge about students once they leave the Toronto Board, it is currently difficult to determine long-term effects of elementary level programs. Likewise, both positive and negative performance of students in the secondary level can only be partly attributed to intervention by the Toronto Board, if we assume that outcomes are cumulative over time. In fact, since many have argued that students can be identified as "at risk" as early as Grade 3, it is probable that many current secondary students have taken on "at risk" characteristics prior to entering the Toronto Board.

Of students in the 1981 Grade 1 cohort who stayed in the Toronto Board, 19% appear to have repeated a grade before they finished elementary school (i.e., they entered a Toronto Board high school a year later than the rest of the cohort), and about two thirds of these retained students were male. These figures are typical of the time period, according to available research. The literature had also strongly linked elementary school retention with secondary school failure, and this was found in the 1981 tracking cohort outcomes: of students who were retained before going onto elementary school, only 38% graduated from high school (compared to 70% of non-retained students) and 32% of retained students had dropped out (compared to 18% of non-retained students). It should be noted that the proportion of apparently retained students has declined since that time, from 19% of the 1981 Grade 1 cohort to 5% of the 1987 Grade 1 cohort, which indicates that Board efforts to reduce elementary retention appear to be working (see the Appendix).

There is not a strong statistical relationship between elementary internal mobility and secondary internal mobility, which may indicate that elementary school mobility has different reasons and relationships than secondary school mobility. One possibility could be that changing schools at the elementary level might be more closely related to parental decisions, like moving neighborhoods, while changing school at the secondary level may be more closely related to student factors. Still, caution should be observed in drawing conclusions, since we only know about the students who remained in the Toronto Board into secondary school, who may be different from others in the cohort who left the Board.

Had they been following the 'traditional' path of school progress, students in the cohort would have finished their fifth year of high school by the end of Year 13 (July 1994). However, about 13% of the total cohort left **after** their thirteenth year with the Board. These would include students who had failed or been otherwise delayed in at least one grade of elementary school; students with lower than average secondary school credit accumulation; students who graduated with their OSSD but returned to upgrade or add OAC credits; and returning students (dropouts and transfers who have returned to the Board). In fact, we know that most students who were still in the Board in Year 15 (their seventh year of high school) had experienced some sort of academic dislocation: they had failed a grade, transferred to a second or third secondary school,

or left the Board as elementary students and re-entered in the secondary panel. The fact that these are also the most "at risk" students may be related.

It should be noted that non-graduates attending high school in their sixth and seventh year is nothing new. In the 1987-92 Grade 9 cohort study -- students who were in high school two years prior to this cohort -- 11% of all Grade 9 students who started in Fall 1987 had not accumulated sufficient credits for graduation but were still attending secondary school in their sixth year (this does not include those graduates returning to supplement their OAC credits.) (Brown, 1993.) In the first Board cohort study 30 years ago, which followed the Grade 9 cohort of **1959**, over 25% of collegiate-level students, and 16% of all students, were still attending secondary school in their sixth year of high school (Wright, 1967). Thus, from the limited but comprehensive evidence of over three decades, there is a consistent indication that a large minority of students will take six or more years to complete their secondary school education. Given the consistency of the pattern, it might be useful to recognize this as a *characteristic* of the total picture of all students, rather than the *fault* of individual students.

Of students in the 1981 Grade 1 cohort who entered the Toronto Board secondary panel (both from Grade 8, and as re-entrants from other Boards), and did not permanently transfer to other Boards, the majority (66%) completed at least one OAC credit; specifically, nearly half (49%) had completed six or more OAC credits by Fall 1995, while one sixth (17%) completed between one and five OAC credits -- indicating an interest in attending post-secondary institutions. Approximately one third of the cohort (34%) completed no OAC credits. There was a gender difference: female students in the cohort were more likely to have completed six or more OAC credits, than were males (just as they were more likely to have graduated than male students in the cohort).

OAC credit accumulation (which determines what students attend post-secondary institutions) is closely related to the models of mobility. Students in the 'traditional model', with limited mobility, were also most likely to complete 6 or more OAC credits (69%) and least likely to not complete any OAC credits (19%) while students who had left the Board and then returned were least likely to complete 6 OAC credits (28%) and most likely to not complete any OAC credits (55%).

Conclusions

Mobility is something that all students experience. Students move from one homeroom to another; from a junior-level school to a senior-level school; and from the elementary to the secondary panel. The educational system is sensitive to the importance of these changes: hence, for example, the extensive development of 'transitions' programs to facilitate elementary students entering their first high school.

However, this longitudinal study of Toronto students who started Grade 1 in 1981 shows that students appear to make several transitions, both within and external to the Board. In the 'traditional' paradigm, students would attend one elementary school up to Grade 6, then make the transition from Grade 8 at an elementary school, to Grade 9 at a secondary school, which they would attend until graduation. Yet this paradigm reflected the true school experience of only 11% of the cohort.[15] The rest experienced one or more of the following patterns of mobility: attending more than one Toronto Board elementary school before the end of Grade 6; failing a grade before the end of elementary school; transferring to another Board in elementary school; returning to the Board in high school, after having transferred out; attending more than one secondary school in the Board; transferring to another Board during secondary school; and dropping out.

The attached diagram attempts to graphically reproduce this experience, with the thick bars representing the elementary and secondary panels, the thick arrows representing the transition to secondary school, the dotted arrows showing internal mobility within the Board, and the other arrows demonstrating external mobility such as transfers. It should be emphasized that this diagram is a simplification that misses several other transitions: internal mobility in Grades 7 and 8; students who transferred out of Toronto secondary schools and then returned, and students who dropped out and then returned.[16]

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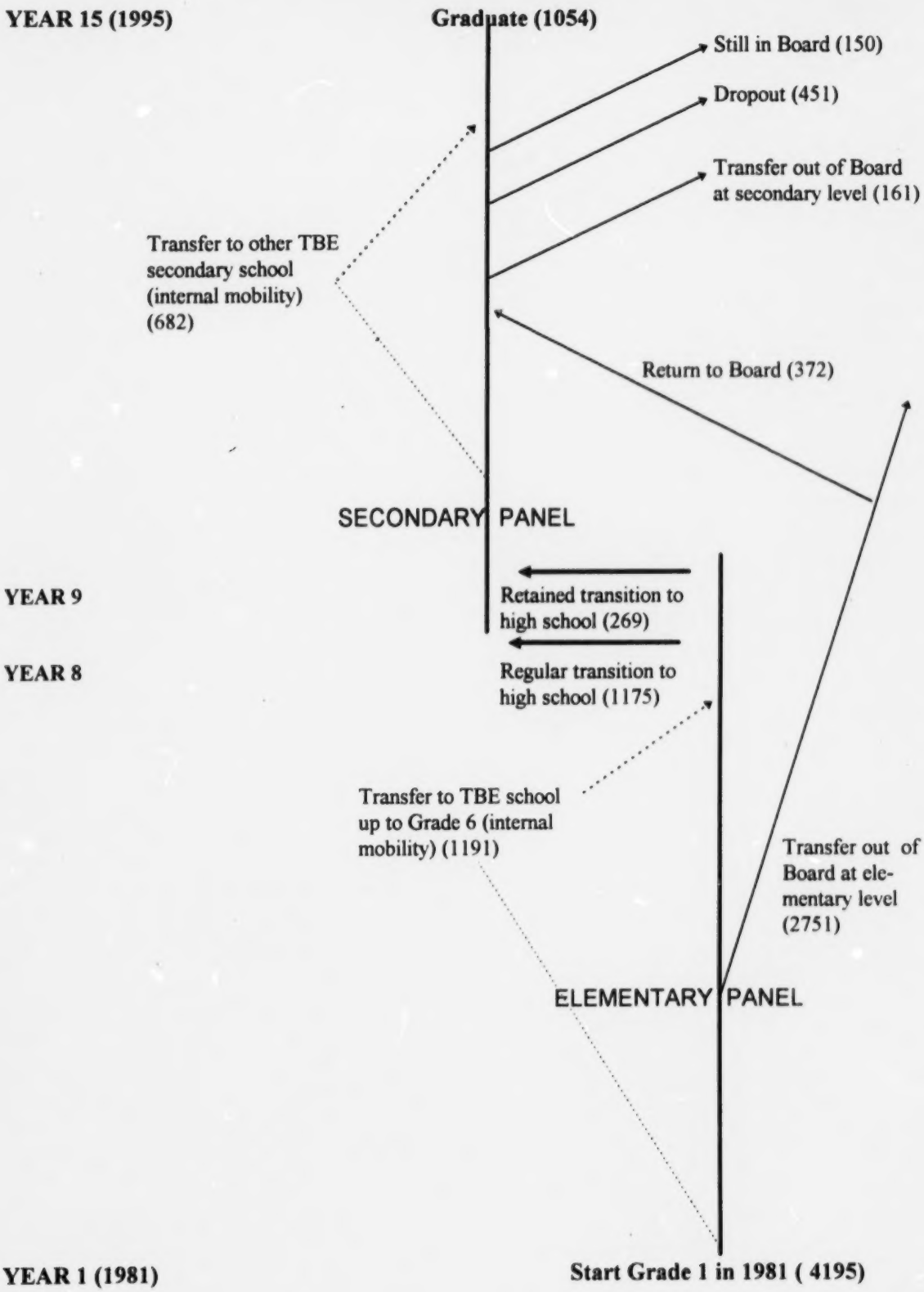
[15] As noted above, 15% of all students in the Grade 1 cohort were in the 'traditional' model of mobility, but 4% either dropped out, permanently transferred out of the Board, or were still in the Board at the end of 1995, leaving 11%. In fact, the 11% includes students who were retained for an elementary grade (i.e. failed). When these students are excluded, the proportion of Grade 1 cohort students who followed the traditional paradigm and graduated is 10%.

[16] Internal mobility in Grades 7-8 has not been examined here, as noted earlier, because in the Toronto Board's system of senior elementary schools, it is common for students to transfer in Grade 7 from a junior-level school that has classes only to Grade 6, to a senior-level school with Grade 7-8 instruction. When these transfers are included, a majority of students in the cohort would have transferred elementary schools in the Toronto Board at least once.


YEAR 15 (1995)
Graduate (1054)
Still in Board (150)
Dropout (451)
Transfer out of Board at secondary level (161)
Transfer to other TBE secondary school (internal mobility) (682)
Return to Board (372)
SECONDARY PANEL
YEAR 9
Retained transition to high school (269)
YEAR 8
Regular transition to high school (1175)
Transfer to TBE school up to Grade 6 (internal mobility) (1191)
Transfer out of Board at elementary level (2751)
ELEMENTARY PANEL
YEAR 1 (1981)
Start Grade 1 in 1981 (4195)

Like any statistical simplification this leaves many questions unanswered and raises other issues. It is apparent that some types of mobility appear closely connected to dropping out, in particular students who were retained in elementary school; students who left the Toronto Board in elementary school but returned as secondary school students; and students who attended more than one Toronto Board secondary school. Moving schools during elementary school may have some effect but much less than other types of mobility, at least from our available Toronto Board records. Student transitions are done for many different reasons: some may have to do with student success (moving to a school with a gifted program, for example), some have to do with academic difficulties, and some have to do with familial decisions or characteristics (some families are moving to a more prosperous neighborhood, others have been evicted from their homes). Until we have a better idea of why students are moving, we may not be able to clearly examine the effects of that movement.

One extremely important segment of the cohort population (which indeed consists of most of the cohort) has not been covered: those students who permanently transferred out of the Toronto Board during elementary or secondary schools. We simply do not know what happened to these students, because tracking depends upon administrative records, and our records only cover a student's career while in the Toronto Board. This is an area that needs much further analysis; unfortunately, it is uncertain whether such an analysis can be done at this time.[17]

It is quite possible that the 1981 cohort may represent the 'worst-case' or most extreme example of mobility, since examination of more recent records shows a lower rate of student movement. Still, it is apparent that non-linear movement appears to be the experience of most students in the Toronto Board, at some point in their elementary or secondary years. Mobility is closely related to issues of accountability: an education system can determine its successes and difficulties only when it knows where its students have been, and what happens to them.

[17] An earlier study of secondary school mobility (Brown, 1995), noted that "it is not unreasonable to assume that many students who transfer out of the Board are at risk, considering the relationship demonstrated by [secondary] within-Board mobility. It would be useful for the Ministry to examine this pattern in detail, since most Boards lack the means to do so."

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Appendix:
The Grade 1 Cohort of 1987-88

This was defined as those students who, during the 1987-88 school year, were registered in a Grade 1 homeroom. 4,827 students were identified as Grade 1 students using those criteria. The majority of these students (4,434, or 91.9%) were born in 1981; 7.5% (363) were born in 1980, while 25 students (0.5%) were born in 1982. Gender was split-- 49.0% female and 51.0% male. 73.3% were identified as (currently) living with both parents, and 25.3% with father or mother only.

As of Fall 1996, 2,663 students in the cohort (55.2%) had transferred out of the Toronto Board prior to attending a Toronto Board secondary school, while 2,164 students (44.8%) had registered in a Toronto Board secondary school. It appears, from this information, that the proportion of students who continued in the Toronto Board has increased from 1981 (34% to 45%). However, the proportion of students who made the transition from Grade 1 to Grade 9 is still under half.

Apparent Retention Rate (Failed Students) at end of Grade 8

As noted in Section B 3, we cannot definitely say what proportion of the entire Grade 1 cohort repeated a grade, since the majority of the cohort left the Board while in elementary school. What we can look at is the proportion of students in the cohort who started Grade 9 in the Toronto Board a year later than they should have. This would therefore give an 'apparent' retention rate or failure rate of students up to the end of Grade 8, among students who remain in Toronto (this would also include students who lost a year due to illness).

Among the cohort, 2,164 students (45%) entered Toronto Grade 9 classes: 2,062 in Fall 1995, and 102 in Fall 1996. Therefore, the apparent retention rate of these students would be 102 out of 2,164, or 4.7%. The majority (65.7%) were male, a proportion higher than the total cohort;[18] likewise, the proportion living with both parents was lower than the total cohort (57.5%, compared to 73.3% for the total cohort).

There does not appear to be a relationship between inner city ranking of school attended, and retention by year.

[18] The proportion of male retained students from the 1981 and 1987 cohorts is similar: 64.3% of 1981 cohort retained students, and 65.7% of 1987 cohort retained students.